

## DATA SHEET

### MODULETEK: MTP/MPO Patchcord Cables

#### Introduction

MTP/MPO optical cable jumper is used for 40g/100g/200g/400g data center wiring. Moduletek provides customized MTP/MPO jumpers that are 100% tested for optimum performance and reliability.

#### Product Features

- Available polarity: Type A, Type B, Type C
- Ultra low insertion loss
- Number of available fiber cores: 8, 12, 24
- MTP/MPO connector type: male, female, male and female
- Available fiber types: SM(G652D, G657A1, G657A2), MM(OM3/150, OM3/300, OM4, OM5)
- Available cable jacket types: PVC, Riser(OFNR), Plenum(OFNP), LSZH
- Multi-fiber connector type: MTP, MPO, APC or UPC polishing type
- Cable length: 1 to 999 meters
- Improve and simplify fiber routing and reduce fiber management space

#### Applications

- Data Center Interconnect
- High-Density Cross Connect
- Backbone Installations
- Telecommunication Networks
- Broadband/CATV Networks
- Test Labs
- LAN/WAN



## General Technical Specifications

Item		Unit	Parameter			
Optical fiber mode		–	SM(Standard)	SM(Elite/Low)	MM(Standard)	MM(Elite/Low)
Insertion Loss	Typical	dB	0.35	0.20	0.35	0.20
	Maximun	dB	0.75	0.35	0.60	0.35
Return Loss		dB	≥60 for APC (8 Angle Polish)		≥20 for UPC	
		dB	≥50 for UPC		–	
Male/Female		–	Male: With Pins, Female: Without Pins			
Tensile Strength		dB	≤0.3(Max 66N)			
Vibration		dB	≤0.3(10 ~ 55Hz)			
Temperature Cycle		dB	≤0.3 (-40 ~ 75°C, 21Cycles)			

## Ordering Information

MPO/APC – MPO/APC – F – A – 0 – 12 – 3.0 – G652D – LSZH – LM – RJ – 00  
 ①            ②            ③ ④ ⑤    ⑥    ⑦            ⑧            ⑨            ⑩ ⑪    ⑫

Item	Unit	Parameter
① Connector Type 1#	–	MTP/APC,MTP/UPC,MPO/APC,MPO/UPC
② Connector Type 2#	–	MTP/APC,MTP/UPC,MPO/APC,MPO/UPC
③ Connector Type	–	M=Male,F=Female,H=Hybrid(Male to Female)
④ Polarity	–	A=Type-A(Straight),B=Type-B(Cross),C=Type-C(Pair Flip)
⑤ Insertion Loss Level	–	0=Standard,1=Elite/Low Loss
⑥ Fiber Count	–	8,12&24
⑦ Cable Diameter	mm	3.0
⑧ Fiber Mode	–	G652D,G657A1,G657A2,OM3/150,OM3/300,OM4,OM5
⑨ Cable Material	–	PVC,Riser(OFNR),Plenum(OFNP),LSZH
⑩ Cable Length	M	L= 1,2,3,4...
⑪ Cable Type	–	MIC:250um mini round cable, RB:Bare Ribbon, RJ:Jacket Ribbon Cable
⑫ Version number	–	00
Example: MPO/UPC-MPO/UPC-F-B-0-12-3.0-OM3/300-LSZH-3M-MIC-00		
<b>For More Information:</b> ModuleTek Limited Web: <a href="http://www.moduletek.com">www.moduletek.com</a> Email: <a href="mailto:sales@moduletek.com">sales@moduletek.com</a>		

## Terminology analysis

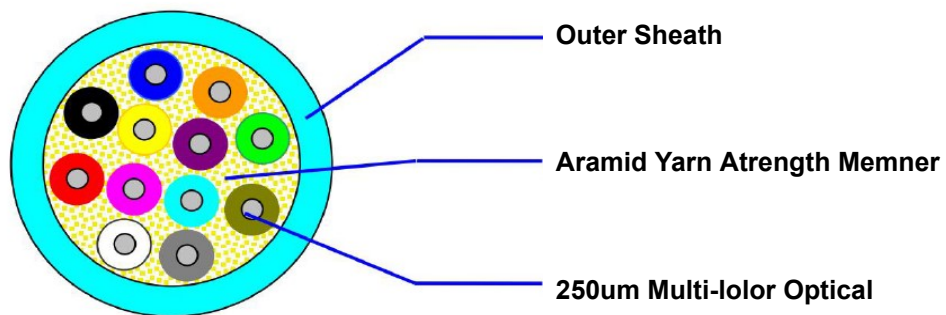
### ① The relationship between fiber type and static bending radius

Fiber type	Static minimum bending radius (mm)
G652D	16
G657A1	10
G65A2	7.5
OM3/150,OM3/300	7.5
OM4	7.5
OM5	7.5

### ② The relationship between the type of fiber and the color of the outer sheath of the cable

Fiber type	Cable outer sheath color
G652D、G657A1、G657A2	Yellow
OM3/150,OM3/300	Aqua green
OM4	purple
OM5	Grass green

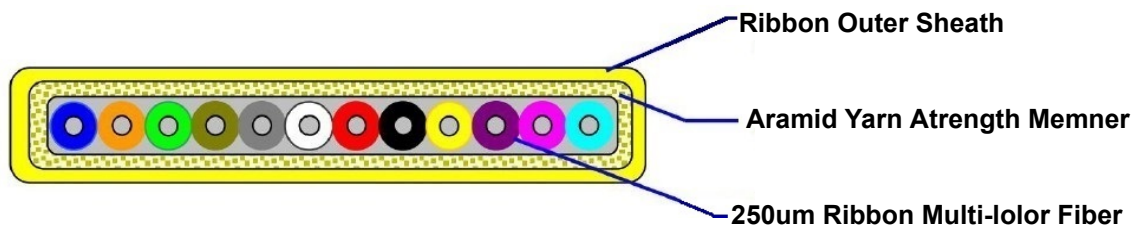
### ③ Type of optical cable



MIC: 250um mini round cable



RB: Bare Ribbon



**RJ: Jacket Ribbon Cable**

#### ④ Difference between MTP and MPO

MTP is a registered brand of US CONEC company, which refers to the MPO connector produced by it. MTP products conform to the international standard IEC-61754-7 and American TIA-604-5 (FOCIS5), while the general MPO only conforms to the international standard IEC-61754-7, and the design of MTP is better than MPO connector. In terms of performance, MTP is the high-performance version of MPO. In terms of price, the price of MTP is much higher than that of MPO products. Since MPO and MTP comply with the national standard IEC-61754-7, they can be interconnected in use.

#### ⑤ Applicable scene of optical cable material

The outer sheath of the fiber optic cable is divided into different material types. The outer sheath of each material has its inherent characteristics (such as different fire performance), suitable for use. The common outer sheath material is divided into PVC, Riser (OFNR), Plenum (OFNP), LSZH, etc. The performance and applicable environment of the above materials are shown in the following tables.

Optical cable material	Applicable scenario
PVC	The application scenario has good mechanical properties, high power insulation, strong flexibility, strong flame retardancy and good stability, but it is stable and qualitative for light and heat. It is suitable for outer sheath materials for indoor optical fiber cables.
OFNR	Riser is one of the main components for the formation of OFNR grade optical fiber cable. Its flame-retardant performance is weaker than plenum material, and there is no toxic gas and corrosive gas. Therefore, the OFNR grade optical fiber cable with riser material is usually used in the building trunk and horizontal cables.
OFNP	Plenum is one of the main components of OFNP grade optical fiber cable. It has high flame retardancy and no toxic gas or corrosive gas will be generated at extremely high temperature. Fiber optic cable with plenum material is the first choice for wiring in the air return pressurization system used for ventilation pipe or air treatment equipment.
LSZH	With low smoke, low toxicity, low corrosion and high flame resistance, LSZH is an ideal choice for indoor / outdoor installation as a safety and environmental protection material. But similarly, the price of fiber optic cable with LSZH material is also more expensive.

**Note:** if the customer does not specify the outer sheath material, LSZH material is selected by default

⑥ Conventional product model weight reference table

Conventional product type	Weight (g)	Each additional meter of optical cable weight (g)
MPO/UPC-MPO/ UPC-F-B-0-8-3.0-OM3/300-LSZH-1M-MIC-00	16.8	6.1
MPO/UPC-MPO/ UPC-F-B-0-12-3.0-OM3/300-LSZH-1M-MIC-00	17.7	7
MPO/UPC-MPO/ UPC-F-B-0-24-3.0-OM3/300-LSZH-1M-MIC-00	20.4	9.7
MPO/APC-MPO/ APC-F-B-0-8-3.0-G652D-LSZH-1M-MIC-00	16.8	6.1
MPO/APC-MPO/ APC-F-B-0-12-3.0-G652D-LSZH-1M-MIC-00	17.7	7
MPO/APC-MPO/ APC-F-B-0-24-3.0-OM3/300-LSZH-1M-MIC-00	20.4	9.7